

COUNTYWIDE TRUNKED RADIO SYSTEM

UPDATE - December, 2000

System operational; coverage standards met

*Independent field tests completed,
awaiting consultant's report*

The countywide trunked radio system has undergone and passed operational "real world" field tests designed to ensure that the system meets the original design criteria for reliability and overall geographic coverage. The tests were conducted between August and December.

The field testing augments previous system functional tests at the Motorola factory in April (see May, 2000 newsletter) Specifically, the field tests and their results are summarized below:

■ **Geographic coverage (vendor):** Automated field tests were conducted by driving through 576 approximately one mile square grids throughout the County. The requirement was 95% coverage reliability throughout the county for the equivalent of a handheld portable radio operated at the head in a medium (12 dB) building. The "drive through" tests were conducted in August in order to present a "worst case" picture, since leaves and foliage were still present. Vegetation has a minor effect on radio frequency coverage in some areas since it can attenuate signal strength.

The system passed the automated coverage test at a level of 98.8%. It is important to note, however, that the tests do not mean that weak coverage locations are nonexistent, nor does it guarantee that future failures will not occur. Such issues occur in all radio systems and may need to be addressed on a case-by-case basis.

■ **System operational tests:** Independent functional tests and system performance measurements, witnessed by consultants from Evans and

Associates, Inc., were conducted in mid October. The tests, performed at each of the system's six sites, were intended to provide a "pass/fail" test of infrastructure functionality, performance, and reliability. Each site was visited at random, and 102 separate tests were conducted. In all cases, the system passed the site tests.

■ **Independent field "talk tests"** were conducted in November and December, 2000 by County personal, and consultants from Evans and Associates. These tests, taken manually throughout the entire County, are intended to corroborate the automated tests independent of the vendor, and to provide an additional set of data with which to identify potential coverage problems.

Ralph Evans III of Evans and Associates is reviewing the data but has not yet completed his report.

Both the automated field tests and functional site tests formed part of the system "Acceptance Test Plan," an important component of the system contract. Failure of either of these tests could result in refusal to accept the system, or a requirement for the vendor to resolve the failures prior to acceptance.

The Countywide Trunked System uses a total of six tower sites located throughout Waukesha County to provide coverage. It is equipped with simulcast technology, meaning that all tower sites receive and transmit at all times; this provides integral redundancy since the system will continue to operate even if an entire site fails, although signal coverage in the immediate area of that site will be reduced. The countywide system allows mobile and portable radios the ability to communicate between each other from almost anywhere within the county. User implementation is about 90 days behind original projections, but additional outside contractors are planned to complete overall migration by year end 2001.

(continued next column)

First users migrate to new trunked operation

Non Public-Safety agencies first to begin trunked operations

The Town of Eagle Highway Department has become the first agency to begin test operations on the countywide trunked radio system. The Town's radios are the first of about 500 units to be installed countywide in the first phase of the trunked system user implementation. Over 3000 total radios are planned for initial use on the system by Charter Members.

Plans call for only non-public safety agencies to adopt trunked operation during the initial user test phase, since their communications are unlikely to involve life-safety issues. System coverage issues and glitches, if any, are expected to be identified by these users prior to migration by Police, Fire and EMS users. Public safety radio users will migrate to the system in subsequent implementation phases. Members participating in this test phase include the Town and Village of Eagle, Cities of Muskego, New Berlin, and Waukesha, and Waukesha County.



County Communications Technician Doug Venenga prepares new trunked handheld radios prior to user migration

Users have already returned their requests for talkgroup (user channel) assignments they require for trunked operation. The system has been programmed to accommodate these requests, as well as the initial radio assignments and other operational parameters. Unlike conventional radio systems, trunked systems are programmed for user requirements and security features.

Payment Schedule Reminder

Infrastructure Cost Repayment Section 2.1 of the Trunked Radio Services Agreement, titled "Payment of the Infrastructure Costs by Initial Members" indicates that payments on the infrastructure notes are due January 31st of each year.

User Radio Equipment Repayment **REMINDER: All signed equipment promissory notes were due December 15, 2000. If you haven't returned yours, please do so by December 29.** These payments apply to members who are financing their portable, mobile radio and console conversion purchases through Waukesha County. Section 2.3 of the Trunked Radio Services Agreement, titled "Payment of Radio Equipment Costs," indicates that payments of radio equipment financed by the County will be due January 31st of each year, with the first payment due on 1/31/2001.

Non Finance Radios Invoices will be issued upon radio order for those municipalities opting not to use County financing.

User migration, training being planned

System Charter Members will be contacted by Jerry Strom of Motorola, Inc. during early 2001 to discuss migration and installation preferences, as well as scheduling and training requirements and preliminary programming needs. Migration for public safety user agencies will require careful planning and cooperation by users because it needs to be accomplished according to dispatch center (PSAP). Participant user radio orders are expected to be placed approximately quarterly and will be coordinated with user migration and installation schedules. All initial member radio orders will be placed prior to year end 2001.

User training, provided by Motorola professional trainers, is also being planned. This will consist of three to four hour "train the trainer" sessions for user radios which will include videos, customized manuals and user cards for each mobile and portable radio model. Motorola will also be providing basic dispatcher trunked radio training.

County technical personnel have already attended system management and programming schooling at Motorola's headquarters in Schaumburg, IL. During 2001, County technicians will attend further schools pertaining to infrastructure and user equipment maintenance and programming since they will be responsible for maintaining the system and many user radios warranties expiration.

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